

## REMARKS

### **Formal Matters**

Claims 1-26 are pending and claims 10-26 are withdrawn from consideration.

Claims 1-9 were examined and rejected.

Claims 1 and 4 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim. Support for the amendments to claims 1 and 4 is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: the preambles of claims 1 and 4. Accordingly, no new matter is added by these amendments.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

### **Rejections under 35 U.S.C. § 112, first paragraph (written description)**

Claims 1-9 are rejected as not meeting the written description requirement of 35 U.S.C. § 112, first paragraph because the specification assertedly fails to adequately describe methods of determining height uniformity. Specifically, the Office asserts that a skilled person could not guess, *a priori*, which determining methods would work for which substrates or whether the identity could be adequately determined. The Applicants respectfully traverse this rejection.

The standard for written description has been established over several years of court cases such as *Vas-Cath Inc. v. Mahurkar*<sup>1</sup> and *In re Wertheim*<sup>2</sup> and has culminated in the publication of the “Written Description Guidelines” Federal Register Vol. 66 No. 4, dated January 5, 2001 to which the Office must adhere when making a written description determination.

The MPEP at § 2163.04 states that “The examiner, therefore, must have a reasonable basis to challenge the adequacy of the written description. The examiner has the initial

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<sup>1</sup> *Vas-Cath Inc. v. Mahurkar*, 19 USPQ2d 1111 (Fed. Cir. 1991).

<sup>2</sup> *In re Wertheim* 191 U.S.P.Q. 90 (C.C.P.A. 1996)

burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. *Wertheim*, 541 F.2d at 263, 191 USPQ at 97.”

Accordingly, the Office must set forth a preponderance of evidence to support a rejection under the written description requirement of 35 U.S.C. § 112.

The Applicants respectfully submit that the Office has not provided any factual evidence to support this rejection. The Office has merely stated that the instant application appears to provide only one example of measuring height uniformity and this example is insufficient to provide adequate description of the claims. The Office has not set forth any reasoning as to why the recitation of methods of measuring height uniformity in the specification, in combination with an example of measuring height uniformity by refractive power, is inadequate to support the claims. As such, the Office’s assertions are not factual and are based solely on an opinion. Accordingly, the Applicants respectfully submit that the Office has not established a reasonable basis to challenge the adequacy of written description of the instant claims.

In other words, the Office has provided no evidence to support its case. Accordingly, this rejection may be withdrawn since it is not formulated using the guidance set forth in the MPEP at § 2163.04.

Furthermore, the Written Description Guidelines, using no uncertain terms, state that the specification of a patent application need only described in detail that which is new or not conventional.

For example, on page 1105 of the Guidelines it is stated: “The claimed invention as a whole may not be adequately described if the claims require an essential or critical feature which is not adequately described in the specification and which is not conventional in the art or known to one of skill in the art”

Also, on page 1105 of the Guidelines it is stated: “Information which is well known in the art need not be described in detail in the specification”

On page 1106, the Guidelines state: “The description need only describe in detail that which is new or not conventional” and “What is conventional or well known to one of ordinary skill in the art need not be disclosed in detail”.

Accordingly, if methods of determining height uniformity are well known in the art or

are conventional, there is no need to describe such methods in detail.

The Applicants respectfully submit that methods of measuring height uniformity (e.g., methods for measuring the *flatness* of an object) are well known in the art and are conventional.

This position is evidenced by the fact that for several decades, during manufacture of semiconductors wafers, lenses for microscope slides and telescopes, microscope slides and other objects for tools and appliances, height uniformity has been routinely measured to maintain quality control. For example, methods for measuring flatness that involve refractive power indices, light interference, determining the distance of the surface of an object from the focal plane of a focused light, determining reflective angle, atomic force microscopy, scanning electron microscopy and assessing X-ray diffraction, are extremely well known. In fact, even in the microarray arts, the height across microarray substrates is routinely measured to achieve autofocus control while scanning the microarrays. Such autofocus control systems are mentioned on page 16 lines 11-14 of the instant application and are well known in the art. Accordingly, methods of measuring height uniformity have been practiced for several decade and are conventional.

Accordingly, the Applicants respectfully submit that the methods of measuring height uniformity are conventional, and, since these methods are conventional, the methods do not have to be described in any detail. Accordingly, the Applicants respectfully submit that description of measuring height uniformity found in the instant specification is sufficient to meet the written description requirement of 35 U.S.C. § 112, first paragraph.

Accordingly, this rejection may be withdrawn.

**Rejections under 35 U.S.C. § 112, first paragraph (enablement)**

Claims 1-9 are rejected as not meeting the enablement requirement of 35 U.S.C. § 112, first paragraph because the specification assertedly fails to adequately enable the “determining the identity” step of claim 1. Specifically, the Office asserts that undue experimentation would be required to measure height uniformity for any substrate other than glass, and using any method other than refractive power. The Applicants respectfully traverse this rejection.

Referring to rejections based on lack of enablement, the MPEP at § 2164.04 states: “In order to make a rejection, the examiner has the initial burden to establish a reasonable

basis to question the enablement provided for the claimed invention *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)..... As stated by the court, "it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to **back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.** Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure." 439 F.2d at 224, 169 USPQ at 370." (emphasis added).

Accordingly, the Office must set forth adequate evidence or reasoning to support a rejection under the enablement requirement of 35 U.S.C. § 112.

The Office performs Wand's analysis of the claims. The Office acknowledges that at the time of filing: a) the skill of the art is *high*, b) *that measurement of height uniformity for a surface was practiced* c) there *is* a working example set forth in the specification, and d) there *is* guidance for performing the subject methods set forth in the specification. As such, the Office appears to have based this rejection solely on an assumption that the field of measuring height uniformity is "unpredictable". The Applicants respectfully submit that the Office has merely provided an opinion and has provided no evidence or reasoning to support this opinion. The Applicants respectfully submit that skilled persons have been measuring height uniformity for decades: there is no unpredictability to this art. In fact, as discussed above, artisans have actually measured height uniformity of microarrays for autofocus control during scanning. While it may be true that different methods may work better for different substrates, it is within the skill of a skilled person to pick a suitable method for a given substrate. For example, a skilled person would not choose a method that involved refraction to measure height uniformity of an opaque substrate.

As such, the Applicants respectfully submit that the Office has established this rejection on an opinion that is unsupported by any evidence. Accordingly, the Applicants respectfully submit that the Office has failed to establish a reasonable basis to question the enablement of the rejected claims and this rejection may be withdrawn without any further discussion.

Contrary to the Examiner's assertions, the Applicants respectfully submit that the art of measuring height uniformity is quite predictable, since it has been practiced for decades in the manufacture of semiconductors wafers, lenses for microscope slides and telescopes,

microscope slides and other objects for tools and appliances, and even in the use of microarrays. Further, based on the fact that height uniformity of a wide variety of substrates other than glass has been measured for decades, a skilled person would be able to select an appropriate method based on the substrate to be analyzed, whether it be glass, plastic, or any other material. Accordingly, one of skill in the art would be able to practice the claimed methods using any one of a number of methods without undue experimentation.

Since the rejected claims can be practiced without undue experimentation, the Applicants respectfully submit that the subject claims meet the enablement requirement of 35 U.S.C. § 112, and, accordingly, this rejection may be withdrawn.

**Rejections under 35 U.S.C. § 112, second paragraph (indefiniteness)**

Claims 1-9 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Applicants respectfully traverse this rejection.

The Office asserts that claims 1 and 4 are incomplete because they do not recite an array as an end product.

Without any intention to acquiesce to this rejection and solely to expedite prosecution, claims 1 and 4 have been amended to recite “in order to fabricate an array of multiple features of different chemical moieties on a substrate surface” at the end of the claim.

The Applicants respectfully submit that the meaning of claims 1 and 4 are clear, and this rejection may be withdrawn.

The Office asserts that claims 1 and 4, are incomplete because the claims omit essential steps. In particular, the Office asserts that a particular method of determination and a particular method of placement are required in the claim.

The MPEP § 2174 states that “If the specification discloses that a particular feature or element is critical or essential to the practice of the invention, failure to recite or include that particular feature or element in the claims may provide a basis for a rejection based on the ground that **those claims are not supported by an enabling disclosure**. In re Mayhew, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).” (emphasis added).

As such, if the Office believes that claims 1 and 4 are incomplete because the claims omit essential steps, according to the MPEP, a rejection under 35 U.S.C. § 112, first

paragraph (enablement), should be made, not a rejection under 35 U.S.C. § 112, second paragraph.

Accordingly, this rejection should be withdrawn without any further discussion. Should the Office maintain that claims 1 and 4 omit essential steps, a new rejection should be made. The Office is reminded that should such a new rejection be made, the next Office Action should be non-final since the rejection would be a new ground of rejection that was not necessitated by a claim amendment or any new information provided by the Applicants (see MPEP § 706.07(a) for a discussion on when an Office Action should be made final. Quoting MPEP § 706.07(a) “Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement...”).

Even if the rejection were made under 35 U.S.C. § 112, first paragraph, the Applicants respectfully submit that no more than two steps are required to practice the claimed methods in their broadest embodiments: determination and placement. In other words, once the direction with the highest height uniformity is *determined*, then moieties are *placed* on the substrate. These two steps are all that are required to practice the claims and they are already recited in the claims.

The Office asserts that particular *types* of determination and placement should be recited in the claims, and, as such, is merely asserting that steps that are *already present* in the claims should be further defined. Since the Office seeks to further define steps that are already present, there can be no missing steps from the claim.

In view of the foregoing, the Applicants respectfully submit that the Office has not used adequate reasoning to establish that the instant claims lack an essential step. To the contrary, since all that is required to practice the claimed methods are “determination” and “placement” steps, and these steps are already recited in the claims, the Applicants respectfully submit the instant claims fully meet the enablement requirement of 35 U.S.C. § 112, first paragraph.

Finally the claims are rejected for reciting the phrase “higher height uniformity”, because this phrase is a relative term and the claims assertedly do not provide a standard for



ascertaining the requisite degree for how much higher height uniformity must be. The Applicants respectfully traverse this rejection.

According to MPEP § 2173.05(b), if a term of degree is presented in a claim, a determination is to be made as to whether there is a standard for measuring that degree. If a standard for measuring the degree is provided, the claim should not be rejected under 35 U.S.C. § 112, second paragraph.

The Applicants do not dispute that “higher” is a relative term, so the question, according to the MPEP, is whether an adequate standard is provided for measuring what is higher. If an adequate standard is provided for measuring what is higher, the claim should not be indefinite.

The rejected claims recite: “determining an identity of a first direction across the substrate surface along which the substrate surface has *a higher height uniformity than along a second direction across the substrate*” (emphasis added). In other words, the claim requires identifying a first direction of a substrate that has higher height uniformity than a second direction of the substrate. In these claims, therefore, the height uniformity of the second direction is the standard to which the height uniformity of the first direction is compared.

Since a standard for comparing the height uniformity of a first direction of a substrate surface is provided in the claim there is no ambiguity in this claim, and, according to the MPEP § 2173.05(b), this claim meets the standards set forth in U.S.C. § 112, second paragraph.

In view of the foregoing discussion, the Applicants respectfully request withdrawal of this rejection.

### CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078.

Respectfully submitted,  
BOZICEVIC, FIELD & FRANCIS LLP

Date: 10.15.03

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